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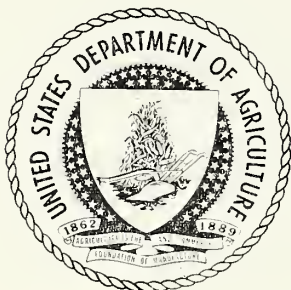
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NOTES
ON THE AGRICULTURAL ECONOMY OF
TURKEY

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Africa and Middle East Branch
Economic Research Service
Regional Analysis Division
U. S. Department of Agriculture

March 1963



NOTES
ON THE AGRICULTURAL ECONOMY OF
THE REPUBLIC OF TURKEY

The Turkish economy is predominantly an agricultural one. Although there is an increasing trend toward urbanization, less than a third of the population lives in towns and cities. While most of the country is ill-suited for agricultural pursuits, agriculture directly supports most of the people. About four-fifths of all Turkish exports, by value, are of farm commodities. But these are limited in variety.

- In a little more than 20 years, agricultural acreage has doubled--largely as a result of mechanization. Total yield, however, has not gained in ratio comparable to the expansion of the agricultural area. Increased productivity in the future
- must come largely from more efficient, more intensive use of presently-harvested and grazed land.

Turkey's potential for improvement in its agricultural economy has been depressed by enormous obstacles, not the least of which is cultural resistance in some areas to progressive change. Political conditions have been unsettled. Investment in agricultural development projects has been continued, but many new undertakings have failed to produce the returns anticipated by economic planners. This is partly a result of adverse weather over a period of several years, and of increased demand. Actual accomplishment of development goals is now heavily dependent on foreign aid.

Population

Total population: 29.2 million (mid-year 1962 estimate).

Annual rate of increase: 3 percent.

Population density: 96 persons per square mile. About half of the people live on the Anatolian plateau, principally in small villages.

Agricultural population: Over 70 percent of the total.

Literacy rate: Estimated at about 40 percent--an increase of more than 30 percent since the founding of the Republic in 1922.

The Turkish people are relatively homogeneous. Kurds constitute a linguistic and ethnic--but not religious--minority of about 9 percent. Over 98 percent of the population is Muslim. Christians (largely Greeks and Armenians) and Jews comprise less than 2 percent of the people.

Economic Situation

- Gross national product: \$5.5 billion (1961, at 1960 prices) or about \$187 per capita. Per capita income from agricultural occupations is only about one-third that of workers in nonagricultural sectors of the economy. Distribution: Agriculture, 36 percent; industry, mining and power, 17 percent; government services, 8 percent; trade, 7 percent; financial institutions and private professions, 7 percent; transportation and communication, 6 percent; all other, 19 percent.

Balance of trade: Excess of imports over exports averaged \$109 million a year between 1957 and 1961 (\$160 million in 1961).

Economic assistance: Turkey has received considerable financial assistance in the past from the United States, although only a relatively small portion of this has been allocated directly for agricultural purposes. Over \$110 million in U.S. funds was used to finance Turkey's mechanization program, mostly between 1949 and 1953. More recently, U.S. interest in the improvement of Turkish agriculture has mainly been directed toward expansion of irrigation and strengthening agricultural services.

As a participating member of the Organization for European Economic Cooperation (OEEC), Turkey has benefited from efforts of this body toward mutual improvement of rural productivity. The 20-nation Organization for Economic Cooperation and Development, a successor to OEEC, has recognized (in committee) that Turkey is moving toward authorship of a sound development plan and has acknowledged the Turkish need for aid in achieving the economic growth projected. Some special assistance has been provided to Turkey as part of the European Productive Agency's program for areas in the process of development.

Economic development: In order to offset an annual 3-percent population growth, Turkey's Five-Year Plan for Economic Development is being designed to increase per capita income by 4 percent a year. Investment requirements are estimated at \$6.6 billion, mainly for allocation to agriculture, housing, transportation and heavy industry. Guidelines for a 1-year program, to begin in 1963, are now being perfected.

Economic outlook: The national economy is currently operating well below capacity. Political crises during its early tenure have prevented the coalition government--a new political concept for Turkey--from effectively coping with the many economic and social problems arising on all sides. Precise government policy is not as yet clearly defined in some sectors.

The economic problems faced today differ considerably from those of ten years ago. Then, additional food supplies and employment could be provided by simply expanding the cultivated acreage; this process can go little further. Now, unless there is an appreciable increase in productivity per acre, food import requirements will continue to rise. Even in harvest seasons, a million agricultural workers are without employment. Unless job opportunities in nonagricultural sectors can be expanded, unemployment will grow as more farm workers seek relief in the cities. Turkish exports are lower now than in the early 1950's. The possibilities of future need for increased imports of food further endanger the implementation of investment programs (these would require heavy imports of equipment) with which to create new jobs and add to the nation's productivity.

Physical Features

Land area: 300,000 square miles, an area nearly as large as the states of Texas and Louisiana combined.

Turkey is bordered on the north by Bulgaria, the Black Sea and the Soviet Union; on the east by the Soviet Union and Iran; on the south by Iraq, the Syrian Arab Republic and the Mediterranean Sea; and on the west by Greece and the Aegean Sea.

Turkey in Asia (97 percent of the country) is made up of the high Anatolian plateau and much lower coastal belts. Mean temperatures on central plateau range from 30° F. in winter to 75° F. in summer. The Mediterranean coast has mean temperatures of 50° F. in winter and 80° F. in summer. Nearly half the country lies above 5,000 feet in altitude. Several mountain peaks rise between 10,000 and 15,000 feet; Mt. Ararat, the highest, reaches nearly 17,000 feet.

Droughts are common. Mean annual precipitation is only 11 inches in parts of the interior. But, most of the coastlands receive over 20 inches (although the fall varies from year to year) and more than 100 inches of rain falls annually on short stretches of land on the eastern Black Sea coast.

Turkey's most important rivers are the Buyuk Menderes in the southwest; the Kizil Irmak, the Yesil Irmak, the Sakarya in northern Anatolia; the Euphrates, Tigris, and Araks in the east; and the Seyhan and Ceyhan Rivers crossing the plains north and east of Adana. There are numerous small water courses, the larger rivers, with the watersheds of the coastal mountains, hold best potentialities for irrigation of surrounding lands.

Land use: Agricultural land makes up nearly 70 percent of the total area of the country. About 30 percent of the agricultural land is arable, but only two-thirds is sown to crops. Approximately 5 million acres are under some form of irrigation.

Table 1.--Land Use, 1956 and 1962

Use	1956	1961	1962 ^{1/}
: - - - - Million acres - - - -			
Arable land:	55.7	57.4	56.8
of which sown	(36.2)	(38.1)	(37.3)
Vineyards	1.7	2.0	1.9
Gardens and orchards	1.7	2.0	1.9
Olive groves	1.2	1.4	1.5
Meadows and pastures	72.9	70.9	71.3
Total agricultural land	133.2	133.7	133.4
Forests	25.7	25.9	26.2
Other land, including wasteland	33.1	32.4	32.4
Total area	192.0	192.0	192.0

^{1/} Estimated.

Patterns of Agriculture

Farm units customarily consist of the crop area only; pastures are held by the community. Over 70 percent of the farm population owns all, and another 22 percent owns half, of the land they work. About a quarter of the total area farmed is held in tracts of more than 125 acres. Over 60 percent of farm families own less than

12 acres of cropland and nearly 85 percent less than 25 acres--farms too small and too fragmented by excessive population to be mechanized economically. Low average farm income permits few modern improvements.

Turkish farmers rely largely on primitive farming implements, animal draft power and much land labor. Grain and fallow rotation is common. Little fertilizer is used (manure is burned for fuel), and the use of chemical varieties is not widespread. Disease and pest control and use of selected seed is limited.

The soil has lost much of its fertility through centuries of mismanagement. Pasture lands are badly overgrazed. While irrigation has long been practiced in most parts of the country, much of this is only partial irrigation under outmoded, inefficient systems. The average Turkish farmer lacks the technical skill and the facilities needed to take advantage of additional water made available through construction of large storage dams and exploitation of underground water supplies in recent years. Many farmers are reluctant to follow new official recommendations as regards irrigation and for planting unfamiliar crops and crop varieties.

A limited number of private landholders have progressed beyond traditional farming methods. The 20 state-owned crop production farms--combining more than 750,000 acres--are modern and fully mechanized. Originally limited to grain farming, these enterprises now produce a variety of crops and also serve as training centers in modern farming techniques. However, of the 49 million acres cultivated throughout the country in 1961, less than 8 million acres were machine cultivated.

Agricultural Policy

Turkey has a history of government participation in agricultural activities. The Ministry of Agriculture is responsible for crop and livestock production. But, Toprak (Office of Soil Products), an autonomous agency which reports to the Ministry of Economy, has operated since 1938 to buy, sell and export grains at government-fixed prices. Toprak has the monopoly for opium sales also. Tekel (Turkish Monopoly Administration) performs the same functions for tobacco and locally-grown tea. Meat, fish, and sugar are similarly controlled. Semiofficial unions of farmers' cooperatives are active in price stabilization operations for filberts and pistachios, and for figs, raisins, olives and cotton. The government annually establishes producer support prices, based on quality, for the major agricultural commodities. Prices to consumers are also government-controlled.

Taxes on agricultural income, first levied in early 1961, have lately been suspended prior to a revision of agricultural tax legislation. Other government reforms under study are redistribution of land; expansion of the irrigated area; subsidization of some agricultural exports; review of agricultural credit; and broadening of existing facilities for agricultural education, extension and research.

Agricultural training at basic levels is available under a monitor system through village institutes. Junior and senior high school grade agricultural schools (1,200 students in 1959) offer practical training. Both suffer from insufficient personnel and equipment.

Under a U.S. technical assistance program, the University of Nebraska has organized college level training at the University of Ankara's Faculties of Agriculture and Veterinary Science. The University of Nebraska also assisted the Turkish Government in establishing Ataturk University--a land-grant-type facility--at Erzurum in 1958. There is a Faculty of Agriculture at Aegean University at Izmir.

A number of specialized agricultural research organizations are operating throughout the country but in general their work is uncoordinated and hampered by scarcity of trained technicians. However, a new, consolidated Research Division is being set up. U.S. technical assistance has been given in training additional workers in agricultural research. Turkey's extension services, also, have been expanded with U.S. help. But partly due to insufficient funds, the services offered have not always been effective.

Agricultural Production

Leading crops are wheat, barley and other grains; grapes, citrus and a wide variety of other fruits; sugar beets; nuts; tobacco and cotton. Domestic production of these crops is used both for local consumption and for export. Sheep and goats far outnumber any other kind of farm animal. Meat production does not meet domestic demand. The dairy industry has not yet been developed on a large commercial scale. Most of the output of livestock and livestock products is consumed in internal markets.

Considerable gains have been made in railroad and highway construction, and storage and processing has improved in recent years. But marketing and transportation facilities are not yet adequate for movement of large shipments of produce to distant points. A relatively small proportion of total farm production now enters commercial channels. This is particularly true of livestock and livestock products and of fresh fruits and vegetables.

Production of most farm products has shown impressive gains since 1948 in spite of recurrent droughts, the most recent of these between 1958 and 1961.

The livestock population for 1961 was officially reported at 13 million head of cattle (including buffaloes); 57.2 million sheep and goats; and poultry, 27.8 million. Turkish statistics for numbers of sheep and goats are considered to be high. The U.S. Agricultural Attache Office in Ankara estimated a total of 32 million sheep; 18 million ordinary goats; and 6 million Angora goats--or 56 million animals of these species--in 1961. Some 40,000 to 45,000 metric tons of wool (greasy basis); 15,000 tons of goat hair; 8,500 tons of mohair; 6 million sheep and lambskins; and a total of nearly 3 million cattle and buffalo hides and goatskins are produced annually.

Table 2.-- Estimated production of principal agricultural commodities, 1948/49, average 1952/53-1954/55, 1956/57 and 1962/63 1/

Commodity	: 1948/49	: Average : : 1952-53 : : 1954-55 :	: 1956/57	: 1962/63 <u>1/</u>
	:	:	:	:
	:	- - - - -	<u>1,000 metric tons</u>	- - - - -
Wheat	: 3,496	: 6,468	: 5,251	: 6,600
Barley	: 1,959	: 3,076	: 2,830	: 3,200
Rye	: 394	: 613	: 566	: 625
Corn	: 701	: 837	: 857	: 650
Oats	: 305	: 382	: 363	: 400
Pulses, edible	: 276	: 275	: 307	: 385
Potatoes	: 454	: 981	: 1,100	: 1,400
Sugar, refined	: 119	: 190	: 308	: 385
Cotton lint	: 67	: 144	: 157	: 210
Cottonseed	: 142	: 305	: 333	: 378
Tobacco	: 74	: 104	: 115	: <u>2/98</u>
Grapes	: 1,468	: 1,961	: 2,605	: 3,200
Citrus fruits	: 60	: 136	: 153	: 355
Apples	: 77	: 132	: 196	: 300
Peaches	: 6	: 20	: 20	: 115
Figs, fresh	: 119	: 110	: 121	: 180
Figs, dried	: 32	: 30	: 36	: 45
Filberts, unshelled	: 50	: 74	: 65	: 80
Milk	: 2,270	: 2,200	: 2,560	: 2,800
Eggs	: 44	: 54	: 58	: 66
Meat	: 150	: 220	: 300	: 378
Wool, cleaned	: 19	: 19	: 19	: 20

1/ Preliminary.

2/ Production figure reflects blighted crop in this year. 1957/58-1961/62 average output was 120,000 tons.

Primary sources: Economic Research Service and Foreign Agricultural Service, U. S. Department of Agriculture; and U. S. Embassy despatches.

Agricultural Consumption

The national level of food consumption--over 2,700 calories per capita daily in 1961--stands second highest, after Israel in the Middle East. On a countrywide average, grains (mainly wheat) and pulses make up over 70 percent of the calorie value of the food supply. Considerable amounts of fresh fruits and vegetables are consumed, however. Consumption of fats, although not high, is greater than elsewhere in the Middle East, except for Israel. Use of animal products and per capita allowances of sugar are below that of other countries of the area.

In most years since the mid-1950's Turkey has been a net importer of wheat and has also had deficits in fats and oils. With several good crop years in succession, the country could probably again produce surpluses of food (as was the case in the favorable crop years following 1950) with little appreciable increase in levels of technology. But a succession of poor years would undoubtedly necessitate a substantial net import increase.

Agricultural Trade

Turkey's agricultural export trade, which usually accounts for over 80 percent of the value of all Turkish exports, suffers from overemphasis on too limited a range of farm products. In 1961, three commodities--tobacco, cotton and filberts--contributed over half of the total value (\$347 million). Other main agricultural exports are fresh and dried fruits, nuts other than filberts, and sugar. Livestock and livestock products together usually make up less than 10 percent of the value of total exports.

About half of all agricultural exports, in terms of value, are sold in western Europe. Turkey is currently pressing for some form of alliance with the European Economic Community, that will permit tariff concessions on major exports and provide economic aid during a transitional period, to protect these markets. Roughly a fifth of all agricultural exports go to eastern Europe. Trade with the United States is discussed below.

Until recently Turkish imports of farm products have rarely exceeded a tenth of the value of total imports. But in four of the six years between 1955 and 1960, this share increased considerably:

Percent of total imports

<u>Product</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>
	- - - - - Percent - - - - -					
Wheat	3.5	6.1	9.5	1.4	--	2.7
Fats and oils	1.0	0.1	2.4	6.5	3.7	3.1
Other farm products	8.1	4.0	7.2	7.4	7.7	4.2
Total farm products	12.6	10.2	19.1	15.3	11.4	10.0

A number of agricultural commodities, including some cereals and cereal products, cotton, margarine, and some livestock and livestock products are subject to export registration. Imports into Turkey are subject to rigid licensing and exchange controls.

Trade with the United States: The United States purchased about 17 percent, by value, of Turkish agricultural exports in 1961 at a cost of over \$60 million. Tobacco alone accounted for \$49 million; nuts, over \$4.5 million. Other U.S. agricultural imports from Turkey are listed in table 3, following.

The U.S. share of the Turkish market depends largely on U. S. financial aid, including partial financing of import programs. Economic assistance for the fiscal year ending June 30, 1962, included allocations of \$58 million for regular imports; \$5 million for development; and agricultural commodities valued at \$92 million. Since 1954 the U.S. has supplied the greater part of Turkish agricultural imports, mainly under the P.L. 480 program; cash dollar sales are relatively low. The substantial increase during 1961 over previous levels (Table 3) was principally due to the drought-induced shortage of wheat.

Table 3.--Agricultural trade with the United States; average 1958-60; annual 1961

U. S. agricultural imports from Turkey			:	U. S. agricultural exports to Turkey		
Commodity	1958-60 average	1961	:	Commodity	1958-60 average	1961
	<u>Million dollars</u>		:		<u>Million dollars</u>	
Tobacco, leaf	48.4	49.3	:	Wheat	14.3	62.4
Filberts	2.4	1.8	:	Other grains & flour	1.3	<u>1/</u> 1.8
Walnuts	.6	1.4	:	Cottonseed oil, ref.	11.0	--
Pistachios	1.9	1.4	:	Soybean oil, ref.	9.4	--
Fig paste	.8	1.3	:	Soybean oil, crude	.5	--
Dried figs	.1	.1	:	Nonfat dry milk	.7	<u>2/</u> .7
Spices, spice roots & seeds	.4	.6	:	Butter	.1	negl.
Apricot & peach kernels	.1	.1	:	Cheese	.4	negl.
Molasses	.3	--	:	Meats & preps., incl. poultry	.8	<u>3/</u>
Canary seed	.3	.5	:	Cattle hides	1.7	3.0
Sheep and lambskins	1.3	1.7	:	Wool	2.1	--
Wool, unmanufactured	1.0	1.3	:	Other livestock products	<u>3/</u>	.1
Animal hair, raw	.3	.1	:	Foods for relief & charity	.4 <u>1/</u>	<u>2/</u> 1.8
Other livestock products	.3	.3	:	Other agricultural exports	.2	.3
Opium	.6	<u>3/</u>	:			
Other agri. products	<u>.2</u>	<u>.2</u>	:			
Total agri. imports	59.0	60.1	:	Total agri. exports	42.9	70.1
Nonagri. imports	<u>8.9</u>	<u>4.9</u>	:	Nonagri. exports	<u>22.2</u>	<u>71.6</u>
Total imports	67.9	65.0	:	Total exports	125.1	141.7

negl. - negligible.

1/ Food for relief and charity includes wheat flour value at \$810,000.

2/ Food for relief and charity includes nonfat dry milk valued at \$812,000.

3/ Less than \$50,000.

Competition with U. S. exports of farm products: In years of normal production, Turkey's most highly competitive agricultural exports are wheat, barley, and cotton. These products are not strictly comparable to the U. S. export offerings, however. External sales of Turkish wheat include a considerable proportion of hard durum wheat, which is not a U.S. export item and which is usually in demand in Europe. Turkey's soft wheat and cotton are generally inferior in quality to U.S. grades. Turkish barley competes with U.S. sales to Europe for feed and industrial uses. Exports of wheat, barley and cotton in the 5 years 1955-59, compared with U.S. and world exports of these commodities are shown in Table 4.

Table 4.--Turkish, U.S. and world exports of wheat, barley and cotton, 1955-59

Year	Wheat				Barley				Cotton		
	Turkey	U.S.	World		Turkey	U.S.	World		Turkey	U.S.	World
					Million	metric	tons				
1955	0.2	7.4	27.4	:	0.1	1.5	5.2	:	0.1	0.6	2.7
1956	0.2	12.8	31.1	:	0.2	1.8	7.1	:	<u>1/</u>	1.0	2.8
1957	--	13.5	30.0	:	--	1.2	6.4	:	0.1	1.6	3.1
1958	<u>1/</u>	11.2	28.2	:	0.2	2.6	6.6	:	<u>1/</u>	1.0	2.7
1959	0.4	12.2	30.3	:	0.2	2.5	6.3	:	0.1	0.9	2.8
1955-59				:				:			
average	0.2	11.4	29.4	:	0.1	1.9	6.3	:	0.1	1.0	2.8

1/ Less than 50,000 tons.

Turkey competes indirectly with U.S. tobacco sales in both the U.S. domestic market and world markets. Nuts, dried fruits and, in some years, citrus fruits, are also competitive with U.S. domestic production.

